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Automated Software Engineering
NASA Ames / RIACS

List of Publications

1 Book

- [1] J. Schumann Automated Theorem Proving in Software Engineering. ISBN 3-540-67989-8. Springer Verlag, 2001.

2 Articles in Books, Journals and Conference Proceedings

- [1] M. Whalen, J. Schumann, and B. Fischer. Synthesizing Certified Code. In *Proceedings FME 2002*, LNAI, Springer, 2002 (in print).
- [2] M. Whalen, J. Schumann, and B. Fischer. Combining Program Synthesis with Automatic Code Certification (System Description). In *Conference on Automated Deduction (CADE)* , LNAI, Springer, 2002 (in print).
- [3] J. Whittle and J. Schumann. Scenario-based Engineering of Multi-agent Systems. In Chr. Rouff (ed.), *Formal Approaches to Agent-based Systems*, Kluwer, 2002 (in print).
- [4] B. Fischer and J. Schumann. AutoBayes: A System for Generating Data Analysis Programs from Statistical Models. *Journal Functional Programming*, 2002 (in print).
- [5] B. Fischer and J. Schumann. Automated Synthesis of Statistical Data Analysis Programs In *Proc. Workshop SDP (Science Data Processing) 2002*, NASA Goddard, 2002.
- [6] Automatic Synthesis of Safety-Related Software. In *Proc. AAAI Spring Symposium Series, 2002, Workshop on Logic-based Program Synthesis: State of the Art and Future Trends*, AAAI, 2002.

- [7] J. Whittle, J. van Baalen, J. Schumann, P. Robinson, T. Pressburger, J. Penix, P. Oh, M. Lowry, and G. Brat. Amphion/NAV: Deductive Synthesis of State Estimation (short paper). In *Proceedings of the 16th Automated Software Engineering Conference 2001 (ASE 2001)*. IEEE Press, 2001.
- [8] J. Schumann and P. Robinson. [] or SUCCESS is Not Enough: Current Technology and Future Directions in Proof Presentation. In *Proc. Workshop on Future Directions in Automated Deduction*, IJCAR 2001, 2001.
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- [13] J. Whittle and J. Schumann. Generating Statechart Designs From Scenarios. In *Proc. ICSE 2000*. IEEE, 2000.
- [14] Johann Schumann. PIL/SETHEO: A Tool for the automatic Analysis of Authentication Protocols. In *Proc. Computer Aided Verification (CAV) '99*, LNAI, pages 500–503. Springer, 1999.
- [15] Johann Schumann. Automated theorem proving in high quality software design. In S. Hölldobler, editor, *Intellectica and Computational Logic: Papers in Honor of W. Bibel*. Kluwer, 1999.
- [16] J. Schumann. Automatische Verifikation von Authentifikationsprotokollen. *KI*, 1998. (in German).
- [17] Johann Schumann (ed.). Automated Deduction in Software Engineering and Hardware Design. In W. Bibel and P. Schmitt, editors, *Automated Deduction. A basis for applications*, volume III.2, pages 99–104. Kluwer, 1998.

- [18] Johann Schumann, Christian Suttner, and Andreas Wolf. Parallel Theorem Provers based on SETHEO. In W. Bibel and P. Schmitt, editors, *Automated Deduction. A basis for applications*, chapter II.7, pages 261–290. Kluwer, 1998.
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3 Technical Reports

- [1] M. Whalen, J. Schumann, and B. Fischer. Synthesizing Certified Code. RIACS Technical Report 02.03.
- [2] J. Schumann und M. Breitling. Formalisierung und Beweis einer Verfeinerung aus AUTOFOCUS mit automatischen Theorembeweisern, Fallstudie. SFB-Bericht SFB342, Institut für Informatik, Technische Universität München, 1998.

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- [5] J. Schumann. Using SETHEO for verifying the development of a Communication Protocol in FOCUS – a case study –. SFB-Bericht SFB342/20/94A, Technische Universität München, 1994 (long version).
- [6] J. Schumann und M. Moser. A Graphical User Interface for SETHEO — A Proposal. Technische Bericht 173-92, Institut für Informatik, Technische Universität München, 1992.
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- [10] J. Schumann. Combining Top-Down and Bottom-Up Theorem Proving: First Experiments. Technical report, ICOT, Tokyo, Japan, 1991.
- [11] J. Schumann. Parallelisation of Inference Systems using an Abstract Machine. SFB Bericht SFB 342/24/91 A, Institut für Informatik, Technische Universität München, 1991.
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- [15] R. Letz und J. Schumann. Global Variables in Logic Programming. Technischer Bericht FKI-96-b-88, Technische Universität München, 1988.

4 Project Deliverables

- [1] S. Bayerl, W. Ertel, F. Kurfefß, R. Letz und J. Schumann. D16 / Full first order logic parallel inference machine – Language and Design. ESPRIT 415F, Deliverable D16, Brussels, 1989.
- [2] S. Bayerl, W. Ertel, M. v. d. Koelen, F. Kurfefß, R. Letz, J. Schumann, Ch. Suttner und N. Trapp. PARTHEO/6: PARallel Automated THEorem Prover based on the Connection Method for Full First Order Logic – Implementation and Performance. ESPRIT 415F Deliverable D15, 1989.
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